G

1. GAAP

Generally Accepted Accounting Principles (GAAP) representing the standard rules and procedures that accountants follow when reporting financial information in limited states.

2. Gamma

The change in delta when the price of the underlying asset changes by one unit. Based upon the call option formula defined in option pricing model [see also **Option pricing equation**]. The mathematic result can be defined as

$$\frac{\partial^2 C}{\partial S^2} = \frac{1}{S\sigma\sqrt{T}} N'(d_1) > 0.$$

3. Gamma-Neutral Portfolio

A portfolio with a gamma of zero.

4. GAP

Dollar value of rate-sensitive assets (*RSAs*) minus the dollar value of rate-sensitive liabilities (*RSLs*). Another way of comparing *RSAs* and *RSLs* is the *GAP Ratio*, defined as:

$$GAP\ Ratio = \frac{RSAs}{RSLs}.$$

5. Gap Option

An option where the option owner has the right to exercise the option at strike price K_1 if the stock price exceeds (or, depending on the option, is less than) the price K_2. For an ordinary option, $K_1 = K_2$.

6. GARCH Model

Generalized autoregressive conditional hetroskedasticity (GARCH) is a model for forecasting volatility where the variance rate follows a mean-reverting process.

7. Garnishment

A court directive authorizing a bank to withhold funds from a borrower.

8. General Break-even Analysis

A generalized formula for break-even quantity, Q^* can be defined as:

$$Q^* = \frac{FC + OCF}{p - vc},$$

where $FC =$ fixed cost; $vc =$ variable cost per unit; $p =$ price per unit; and $OCF =$ operating cash flow.

9. General Cash Offer

A public issue of a security that is sold to all interested investors, rather than only to existing share-holders.

10. General Obligation Bonds

Municipal bonds secured by general fund (i.e., the full faith), credit, and taxing power of the issuing state or local government. [See also **Revenue bond**]

11. General Partnership

Form of business organization in which all partners agree to provide some portion of the work and cash and to share profits and losses. Each partner is liable for the debts of the partnership. [See also **Limited partnership**]

12. Generalized Wiener Process

A stochastic process where the change in a variable in each short time period of length δt has normal distribution with mean and variance, both proportional to δt.

13. Generally Accepted Accounting Principles

In the US, Generally Accepted Accounting Principles (GAAP) are used as guidelines for financial statement reporting. It is a common set of accounting concepts, standards, and procedures by which financial statements are prepared. Besides GAAP, thrifts and insurance companies are also subjected to statutory accounting. [See also **Statutory accounting**]

14. Gentry-De La Garza Model

A way of analyzing receivable balances is to use the Gentry-De La Garza model [see also Gentry and De La Garza (1985)]. This model describes three reasons why accounts receivable balances may increase: sales pattern effects, collection experience effects, and joint effect. Sales pattern effects are increases in receivables due solely to increases in sales.

The increase in accounts receivable is partly a function of increasing sales (the sales pattern effect), partly a function of the deterioration in collections (the collection experience effect), and some combination of both (the joint effect).

The joint effect is explained as the increase in receivables due to a simultaneous deterioration in collections and increase in sales. For instance, some customers may have purchased the product with the assumption that they could pay late; this would both increase sales and slow collection. The joint effect is calculated by taking the difference between the current and past collection experience effects and then multiplying this difference by the difference between the current and past sales levels.

Finally, the sales pattern effect is quantified by taking the difference between the current and past sales levels multiplied by the prior collection experience effect.

The sum of the sales pattern effect, joint effect, and collection experience effect equals the difference between the receivables balances.

The advantage of the Gentry-De La Garza model is that it separates the increase in receivables into three quantifiable components. A financial manager then can see clearly if an increase in receivables results from faulty credit controls or if the increase is simply consistent with rising sales levels. Deteriorating collections might indicate that credit is granted too freely or that the company is not persistent enough in collecting overdue accounts. Both problems fall under the control of the credit department and are the primary responsibility of the credit manager.

15. Geometric Brownian Motion

A continuous stochastic process, $x(t)$, in which the increments are given as $dx(t)/x(t) = \alpha dt + \sigma dZ$, where dZ is the increment to a Brownian motion driving the process.

16. Geometric Mean (also Called Geometric Average)

If historical, or ex-post, data are known, an analyst can easily compute historical average return and risk measures. If X_t represent a data item for period t, the arithmetic average $\overline{X}$, over n periods is given by:

$$\overline{X} = \frac{\sum_{t=1}^{n} X_t}{n}.$$

The sum of the values observed divided by the total number of observation is sometimes referred to as the mean.

Alternatively, we can use the same data to calculate the geometric average rate of return as:

$$\overline{X}_g = \left[\prod_{i=1}^{N}(1+X_i)\right]^{\frac{1}{N}} - 1,$$

In general, the geometric average is less than the arithmetic average, and while both measures are intuitively plausible, we are left with the problem of determining which average is more appropriate to calculate. To illustrate, suppose you purchase a stock for \$10 per share and at the end of the first year the price is \$20 per share; you have experienced a 100 percent return. At the end of the second year, the price has returned to \$10 per share; you have experienced a loss of 50 percent. Using the arithmetic average of our yearly returns of +100 percent and −50 percent gives an average return of 25 percent, $(+100-50)/2$, which is ridiculous. We started with a stock value of \$10 per share, and the value of the stock at the end of the second year was \$10 per share, so we actually received a return of 0 percent. This is the amount calculated for the geometric average, $\sqrt[2]{(2)(1/2)} - 1$. In fact, viewing these averages as estimates of return that actually result from holding stock, Blume (1974) has shown that a *mixed average* of these two quantities is generally preferable to the individual use of either one. The weights in this compromise estimate depend on the length of time the stock is to be held. Specifically, for a holding period of T years, Blume recommends estimating the annual holding period return by a mixed mean as:

$$\overline{X}_m = \frac{N-T}{N-1}\overline{X}_a + \frac{T-1}{N-1}\overline{X}_g,$$

where $N =$ numbers of periods of data used to calculate the average rates of return and $T =$ number of periods the investment is to be held. Notice that if the stock is to be held for just one year ($T = 1$), then $\overline{X}_m$ is just the arithmetic average. However, for holding periods longer than one year, some weight is given also to the geometric average. Since it is a weighted average of these quantities, $\overline{X}_m$ must lie between $\overline{X}_a$ and $\overline{X}_g$.

17. Gibson Relation

Gibson relation describes relationship between actual levels of prices and yields as follows:

1. When the price is relatively high, so are interest rates.
2. When prices are low, yields also tend to be low.

18. Gilts

British and Irish government securities.

19. Ginnie Mae

Name referring to the Government National Mortgage Association. [See also **GNMA**]

20. Glass-Steagall Act

The 1933 act that separated lending activities from investment banking activities at commercial banks by prohibiting commercial banks from underwriting corporate securities. Since 1987, the Fed now allows bank holding companies to expand their activities in securities underwriting through the special investment bank subsidiaries of commercial bank.

21. Global Bonds

The international bond market is increasingly ignoring national boundaries. A growing number of debt issues are being sold globally. In 1989, the World Bank was the first issuer of global bonds; in 1993, over \$15 billion of global bonds were issued. Global bonds usually are denominated in US dollars. As they are marketed globally, their offering sizes typically exceed \$1 billion. In addition to the World Bank, issuers include the governments of Finland and Italy and corporations such as Matsushita Electric Industrial Co., Citicorp, First Chicago Corp., and Korea Electric Power Co.

22. Global Minimum Variance Portfolio

The lowest-variance portfolio achievable, given a population of securities.

23. Globalization

Tendency toward a worldwide investment environment, and the integration of national capital markets.

24. GNMA

Government National Mortgage Association (Ginnie Mae) – a government entity that buys mortgages for low-income housing and guarantees mortgage-backed securities issued by private lenders. GNMA was created by congress in 1968.

GNMA is a government-owned agency with two major functions. The first is sponsoring mortgage-backed securities programs by FIs such as banks, thrifts, and mortgage bankers. The second is acting as a guarantor to investors in mortgage-backed securities regarding the timely pass-through of principal and interest payments on their sponsored bonds. In other words, GNMA provides timing insurance. In acting as a sponsor and payment-timing guarantor, GNMA supports only those pools of mortgage loans whose default or credit risk is insured by one of three government agencies: the Federal Housing Administration (FHA), the Veterans Administration (VA), and the Farmers Home Administration (FMHA). Mortgage loans insured by these agencies target groups that might otherwise be disadvantaged in the housing market, such as low-income families, young families, and veterans. As such, the maximum mortgage under the FHA/VA/FMHA-GNMA securitization program is capped.

25. Going Private

A technique where a **leveraged buyou**t (LBO) can be used to take a firm out of public ownership and into private ownership. [See also **Leveraged buyout**]

26. Going Public

Going public offers several advantages to a firm and its current, private shareholders. First, selling stock publicly allows the firm to tap another source of capital: the public equity markets. Managers may decide to make the firm public because they need more capital than a private placement can provide. Or it may be cheaper to raise public equity than to undergo another round of financing from venture capitalists. Studies show that a firm should be profitable and raise at least $10 million for an IPO to be cost-efficient. In addition, once a firm goes public, it can raise money periodically from the public markets by selling additional shares of stock.

Second, a certain prestige and publicity surrounds a firm that goes public and lists its shares on a stock exchange for trading. Third, shareholders may enjoy attractive capital gains if management achieves sales and profit goals. Founding entrepreneurs often purchase shares for pennies when the firm begins operating, but after the IPO, their shares are worth much more. A good time to go public is when investors favor stocks in the firm's industry or when the stock market is in a strong rising trend. The IPO market may be momentarily hot in a certain industry.

A public company enjoys a fourth advantage through its shares' liquidity. Since investors can buy or sell shares easily form each other, investors or managers easily can sell all or part of their investments if they choose. Managers may receive pressure to go public form the firm's private equity holders – especially venture capitalists – who may have a strong desire to liquidate their holdings. Secondary market liquidity eases owners' worries about receiving fair market value for their shares, since an impersonal marketplace, rather than accountants and attorneys, determine the per-share value of the company. Public trading may take the shares even more valuable, by reducing their liquidity risk.

Yet, some firms find going public an undesirable option. First, offering stock to the public is an

expensive process. The costs of preparing financial statements, hiring attorneys, and marketing the shares to investors can consume a significant portion of the funds raised.

Another drawback is loss of control over the firm. Unless the firm offers less than 50 percent of its equity to the public, investors who are unknown to current managers and owners will collectively own most of the firm's common stock. Those shareholders will elect a board of directors to ensure that decisions are made in the shareholders' best interests. In addition, shareholders will make other major decisions themselves by voting, as outlined in the corporate charter or as allowed by the board. Additionally, since the former private shareholders will lose control over who buys the publicly traded shares, they may find the firm the target of a hostile takeover sometime in the future. Of course, control can be diluted by selling shares privately as well.

A third potential disadvantage is that a public firm must lay out its finances for all to see. While this reporting requirement allows current and potential investors to examine the firm's strengths and weaknesses and gain insight into management's future plans, it also allows the firm's competitors, both foreign and domestic, to do the same thing. Rivals can factor in the firm's profit margins and product sales as they ploy their marketing and R&D strategies.

Public firms also must submit to regulation by the **Securities and Exchange Commission (SEC)** and the exchange on which their shares are traded. [See also **Securities and exchange commission**]

Finally, having shares listed and traded on an exchange does not always guarantee a dramatic increase in liquidity and share price. If the firm is still relatively small and the market sees no spectacular potential for future growth in sales and profits, investors may ignore the firm after the public offering. This could leave shareholders with shares of a public firm that nobody else really wants to own. The shares can become illiquid quickly if they are not traded frequently, and weak interest can leave them languishing at a low price. The firm may have been better off staying private.

27. Going-Private Transactions

Public owned stock in a firm is replaced with complete equity ownership by a private group. The shares are de-listed from stock exchanges and can no longer be purchased in the open market.

28. Gold Standard

A monetary system where the value of a country's currency is determined by the value of the gold content in the currency.

29. Golden Parachute

Companies often provide their top executives with substantial severance benefits, or golden parachutes, in the event of hostile takeovers. These benefits may have some economic justification because top managers face a dilemma when a hostile threat emerges. If they resist a successful takeover attempt, even if they believe resistance in shareholders' best interests, then they are likely to face dismissal by the new owners. Without the golden parachute, managers may have some incentive to acquiesce too easily to strong, hostile suitors.

30. Goodwill

An intangible asset representing the difference between the book value of an asset or a firm and the actual sales price.

31. Gordon Model

Many firms have sales and earnings that increase over time; their dividends may rise, as well. If we assume that a firm's dividends grow at an annual rate of g percent, next year's dividend, D_1, will be $D_0(1+g)^2$. Generalizing,

$$D_t = D_0(1+g)^t.$$

Substituting this into the equation for the present value of all future dividends, we can show that the price at any future time t can be defined as:

$$P_t = \frac{D_{t+1}}{r - g},$$

where $P_t =$ firm's stock price at time t; $D_{t+1} = D_t(1 + g)$, next year's expected dividend (equals the current dividend increased by g percent); $g =$ the expected (constant) dividend growth rate; $r =$ required rate of return.

This result, known as the Gordon model, or the constant dividend growth model, provides a straightforward tool for common stock valuation. The main assumption of constant growth in dividends may not be realistic for a firm that is experiencing a period of high growth or negative growth (that is, declining revenues). Neither will constant dividend growth be a workable assumption for a firm whose dividends rise and fall over the business cycle. The constant dividend growth model also assumes a dividend-paying stock; the model cannot give a value for a stock that does not pay dividends. In addition, in the denominator of the equation, the required rate of return, r, must exceed the estimated growth rate, g. Finally, the constant dividend growth model assumes estimates for r, the required rate of return, and g, the dividend growth rate.

The constant dividend growth model reveals that the following three factors affect stock prices, ceteris paribus: 1) the higher the dividend, the higher the stock price; 2) the higher the dividend growth rate, the higher the stock price; 3) the lower the required rate of return r, the higher the stock price. [See also **Appendix A**]

32. Grace Period

The time period for a credit card statement representing the time from when the statement is generated to the last day full payment can be made and still avoid a finance charge. [See also **Appendix A**]

33. Grandfather Clause

A legislative provision that exempts parties previously engaged in activities prohibited by new legislation.

34. Greeks

A term generally referring to delta, gamma, vega, theta, and rho, all of which measure the change in the price of a derivative when there is a change in an input to the pricing formula.

35. Green Shoe Provisions

Some IPOs contain Green Shoe provisions, named after one of the first firms to include the provision in its underwriting agreement. A Green Shoe provision gives the leading investment bank the right to increase the number of shares sold in the IPO, typically by 10 percent to 20 percent of the original offering. This helps the investment bank satisfy more investors if demand for an issue is particularly hot. This also gives investment banks another way to increase their profits, since they earn the spread on any extra shares they sell.

36. Greenmail

Payments to potential bidders to cease unfriendly takeover attempts. Managers may arrange targeted repurchase to forestall a takeover attempt. In a targeted repurchase, a firm buys back its own stock from a potential bidder, usually at a substantial premium. These premiums can be thought of as payments to potential bidders to delay or stop unfriendly takeover attempts. Critics of such payments label them greenmail.

37. Gross Domestic Product (GDP)

The market value of goods and services produced over a period of time including the sum of con-

sumer expenditures, investment expenditures, government expenditures, and net exports (exports minus imports).

38. Growing Perpetuity

A constant stream of cash flows without end that is expected to rise indefinitely. For example, cash flows to the landlord of an apartment building might be expected to rise a certain percentage each year.

39. Growth Funds

Growth funds are structured to include a well diversified combination of common stock. Basically, three reasons may be cited. First, empirical studies of common stock have almost invariably shown their long-term total return to exceed those on bonds. Second, stock in generally conceded to be a better hedge against inflation risk than bonds. Third, many small investors may prefer to hold obligations of financial institutions as their major fixed-income securities because of their convenience and safety resulting from government insurance programs.

40. Growth Opportunity

Opportunity to invest in profitable projects.

41. Guarantee

Make oneself liable for the debts of another.

42. Guaranteed Insurance Contract

A contract promising a stated nominal rate of interest over some specific time period, usually several years.

43. Guaranteed Investment Contract (GIC)

A financial contract in which the writer of a policy agrees to pay a fixed amount at maturity after receiving a fixed, single premium up front.

44. Guardian

An individual or a trust department appointed by a court to manage a minor's property or personal affairs.